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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,053

08/16/2006

Victor Evgenievich Zhitomirskiy

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06/02/2010

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CHARLOTTE, NC 28280-4000

EXAMINER

LEDYNH, BOT L

ART UNIT

PAPER NUMBER

2858

MAIL DATE

DELIVERY MODE

06/02/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,053	Applicant(s) ZHITOMIRSKIY, VICTOR EVGENIEVICH	
	Examiner Bot L. LeDinh	Art Unit 2858	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2,3,5-22 and 26-31 is/are pending in the application.
4a) Of the above claim(s) 12,13,20 and 21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,8-9,16-19,22,26 and 29-31 is/are rejected.
- 7) ☒ Claim(s) 2,5-7,10,11,15,27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/21/10</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 14 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 22. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

3. Claims 3, 8-9, 16-19, 22, 26 and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Spies (DE19621886) in view of either Lee et al (7482803) or Tapson (7321229). Spies (DE19621886) discloses substantially the same invention as claimed: A position encoder comprising: first 2 and second 1 members which are relatively movable along a measurement path; an excitation winding (4.1, 4.2,...) and a sensor winding (5.1, 5.2, 6.1,...), at least one of the excitation winding and the one or more sensor windings being which carried by the first member; a DC magnetic field generator 1 carried by the second member and operable to generate a DC magnetic field which varies with position along the measurement path; a film of magnetizable material 3 which is located, in use, within said positionally varying

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DC magnetic field to cause the film to have a positionally varying magnetization state along the measurement path;

wherein the excitation and sensor windings are arranged relative to said film so that a mutual electromagnetic coupling between them varies in dependence upon the positionally varying magnetization state of said film of magnetizable material, so that when said excitation winding is energized with an excitation signal, a sensor signal is generated in the one or more said sensor windings that varies with the relative position between said first and second members; an excitation circuit operable to generate an excitation signal having an excitation frequency for energizing the excitation winding to cause the excitation winding to generate an excitation electromagnetic field; a processing circuit (Fig.5) operable to process the sensor signal generated in the sensor winding in response to the energization of said excitation winding, to determine a value indicative of the relative position between the first and second relatively movable members; same frequency (58 and first sentence of the Abstract); excitation EM field being inherently perpendicular to film 3 due to the symmetry of the EM field of the windings; Permalloy (i.e., Ni-Fe) 3; as to claims 30-31, see Fig.4. However, Spies does not disclose determining a value of a ratiometric function indicative of the relative position between the first and second members. Either Lee et al (7482803) or Tapson (7321229) discloses the determination of a value of a ratiometric function indicative of the relative position between the first and second members in order to eliminate the effects of common factors such as excitation voltage, manufacturing variation (such as gap between a coil assembly and the coupler element), electrical noise, ambient or local conditions

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such as temperature, or other factors. See Lee et al's col.1, lines 33-61; Tapson's col.2 in lines 1-8. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Spies by determining a value of a ratiometric function indicative of the relative position between the first and second members in order to eliminate the effects of common factors such as excitation voltage, manufacturing variation (such as gap between a coil assembly and the coupler element), electrical noise, ambient or local conditions such as temperature, or other factors. See Lee et al's col.1, lines 33-61; Tapson's col.2 in lines 1-8.

Allowable Subject Matter

1. Claims 2, 5-7, 10-11, 15, 27-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
2. Although specific columns, figures, reference numerals, lines of the reference(s), etc. have been referred to, Applicant should consider the entire applied prior art reference(s).
3. Applicant's arguments filed 4/21/10 have been fully considered but they are not persuasive. Applicant argues that Spies does not disclose "one or more sensor windings which are at substantially the same frequency as said excitation frequency (emphases original)."
4. The Examiner respectfully disagrees. Spies discloses substantially the same frequency by stating that "[b]y the application of the high frequency alternating field to the two excitation coils (4.1, 4.2) a **corresponding high frequency** alternating field constructed ... induced in the carrier body (3) (emphasis added). See partial English

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translation, page 4. Other Applicant's arguments are considered moot in view of the new ground of rejection.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

CONCLUSION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Bot LeDinh whose telephone number is 571-272-2231. The Examiner normally does not work on Fridays. The examiner can normally be reached on Mondays through Thursdays according to a FlexiMax schedule.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK J. ASSOUAD, SPE, can be reached on (571)272-2210.

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The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786- 9199 (IN USA OR CANADA) or 571-272-1000.

BL/ 2010

/Bot LeDinh/
Bot LeDinh
Primary Examiner, Art Unit 2858